RISO Publisher Information Notes

Subject: Networking RISO Publishers(Update) Issue #:19439

Product: SC7000, SC7000 Upgrade, SC3000, CI300

Applies to: Connection to Computer Networks

[ ] Software [ ] Hardware [ ] Operation [X] Other

Networking RISO Publishers

General Considerations

Every computer network is a complex, unique environment. It is impossible to predict whether or not a specific device will work on a specific network before the details of the network are known. The purpose of this document is to describe alternative strategies for connecting RISO Publishers to some common types of computer networks and to provide enough information about RISO Publishers to enable a network administrator to select the best connection strategy for a particular network and to source a compatible external device if one is necessary.

Macintosh Networks

Macintosh computers communicate via AppleTalk protocol over either LocalTalk or EtherTalk (Ethernet) hardware. All RISO Publishers have built-in AppleTalk protocol and either a LocalTalk or an EtherTalk port. All RISO Publishers can be connected to Macintosh AppleTalk networks either directly or by means of a LocalTalk/EtherTalk converter as illustrated in the table below.

Macintosh Network Connections

RISO Publisher Model	LocalTalk Network	EtherTalk Network
SC7000 & SC7000 Upgrade	Use EtherTalk/LocalTalk converter (see next table.) Follow supplier's installation instructions. Connect LocalTalk port on converter to network. Connect Ethernet port on converter to matching Ethernet port on SC7000.	Connect standard Ethernet network cable directly to matching port on SC7000.
SC3000	Use RISO AppleTalk Kit (CI-005.) Connect directly to LocalTalk port on SC3000. Install AppleTalk SC3000 printer driver on Macintosh computer.	Use EtherTalk/LocalTalk converter (see next table.) Follow supplier's installation instructions. Connect Ethernet port on converter to network. Connect LocalTalk port on converter to matching LocalTalk port on SC3000. Install AppleTalk SC3000 printer driver on Macintosh computer.
CI300	Use RISO AppleTalk Kit (CI-005.) Connect directly to LocalTalk port on CI300. Set CI300 DIP SW7 down. Use printer driver and PPD file recommended by RISO.	Use EtherTalk/LocalTalk converter (see next table.) Follow supplier's installation instructions. Connect Ethernet port on converter to network. Connect LocalTalk port on converter to matching LocalTalk port on CI300. Set CI300 DIP SW7 down. Use printer driver and PPD file recommended by RISO.

The partial listing of EtherTalk/LocalTalk converters in the following table is presented solely as a convenience to those who have no other source of information about those types of devices. RISO has not tested the products listed and neither

endorses them nor guarantees they will work in your customer's specific network environment. RISO does not provide technical support for this type of product. It is the responsibility of the buyer to contact the supplier of any EtherTalk/ LocalTalk converter of interest before purchase regarding current specifications, prices, suitability for the specific environment, and availability of technical support during installation.

EtherTalk/LocalTalk Converters

Supplier	Product	Ports	Comments
Asanté Technologies, Inc. www.asante.com	Micro AsantePrint-10T	1 LocalTalk, 1 AUI, 1 RJ-45	Supports up to 8 LocalTalk devices.
	Micro AsantePrint	1 LocalTalk, 1 AUI, 1 BNC, 1 RJ-45	Supports up to 8 LocalTalk devices.
Dayna Communications, Inc. www.dayna.com	DR0100 PathFinder	1 LocalTalk, 1 AUI, 1 BNC, 1 RJ-45	$759. Supports up to 30 LocalTalk devices.
	EP0423 EtherPrint-3 Plus	1 LocalTalk, 1 AUI, 1 RJ-45, 1 10BaseT	Supports up to 4 LocalTalk devices.
	EP0123 EtherPrint-3	1 LocalTalk, 1 AUI, 1 RJ-45, 1 10BaseT	Supports up to 2 LocalTalk devices.
Farallon Communications, Inc. www.farallon.com	PN842-1 EtherWave Printer Adapter	1 LocalTalk, 2 RJ-45	$289. Supports 1 LocalTalk device.
	PN558C-1 EtherMac MultiPrinter Adapter	1 RJ-11, 1 RJ-45, 1 BNC	$289. Supports up to 8 LocalTalk devices.
	PN848-1 EtherWave MultiPrinter Adapter	1 RJ-11, 2 RJ-45	$339. Supports up to 8 LocalTalk devices.

PC Networks

With PC networks one must avoid confusing the *network* operating system with the *client* PC operating system. The *client* PC operating system runs on a networked PC. RISO printer driver support for client PC operating systems is illustrated in the following table.

Client PC Printer Drivers

RISO Publisher Model	Win3.1X	Win95	WinNT 4.0
CI300	No	No	No
SC3000 Product Code S-2112	Yes	Yes	No
SC7000 Product Code S-2173	Yes	Yes	No
SC7000 Upgrade Product Code S -2173G	Yes	Yes	Yes

The *network* operating system runs on the network file server which routes print jobs from the client PCs to networked printers. RISO does not furnish printer drivers for network operating systems.

PC networks are much more variable than Macintosh networks. The variety of available network operating systems, communication protocols, topologies, and client computer operating systems makes it difficult to provide standardized solutions which will work in any specific network environment. The unique nature of each PC network requires that the technical resource responsible for maintaining the network (usually the network administrator) selects the implementation strategy and also the external print server adapter whenever one is required.

RISO Publisher Information Notes

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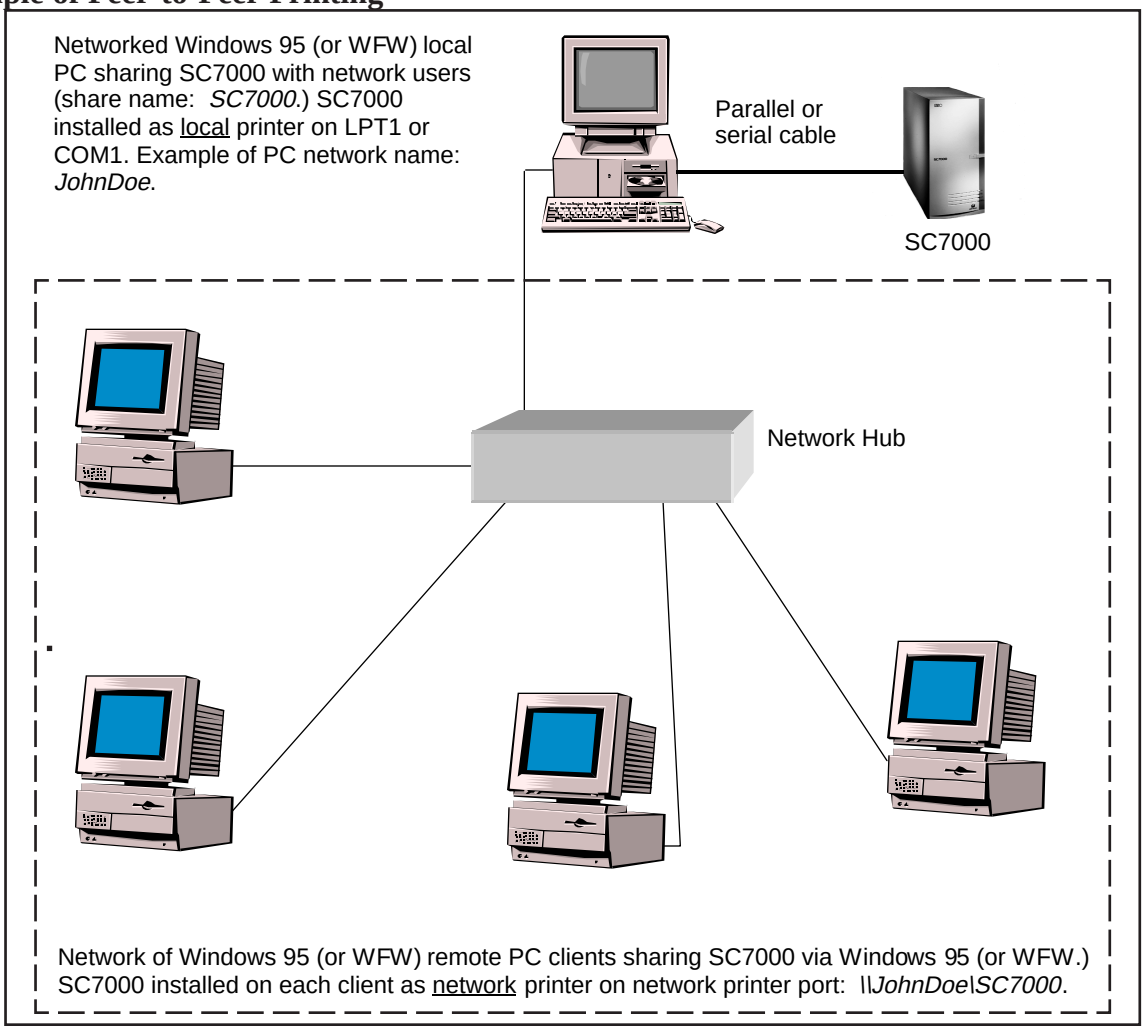
This document presents three strategies for connecting RISO Publishers to PC networks: peer to peer printing, direct network connection, and external print server adapter connection. The communication capabilities of the particular RISO Publisher and the details of the individual network will usually guide the network administrator to the best solution for a particular installation. The three strategies are discussed individually below.

Peer-to-Peer Printing

Peer PCs are networked PCs running the same operating system. WFW (Windows for Workgroups) Win95 (Windows 95) and WinNT (Windows NT 4.0) have built-in peer-to-peer functions, which can be used to enable any peer PC on a network to use a printer attached locally to one of them, regardless of the network protocol and hardware. The PC to which the printer is attached does not have to be dedicated to the print serving function. Simply install the RISO Publisher as a *local* printer on one of the networked PCs using the printer driver recommended by RISO and connect it to the PC by either the parallel or the serial printer port. Set up sharing on the connected PC to make the RISO Publisher accessible to the remote peer PCs. Install the RISO Publisher on each remote PC as a *network* printer using the network name of the connected PC and the share name of the RISO Publisher as the printer port. The connected PC functions as a network print server for the RISO Publisher. Because this print server function is built into the WinNT, Win95, and WFW operating systems, it will work unobtrusively in the background of the connected PC, which can be used productively for normal work. A peer-to-peer example using the SC7000 Publisher is illustrated below.

Example of Peer-to-Peer Printing


Networked Windows 95 (or WFW) local PC sharing SC7000 with network users (share name: *SC7000*.) SC7000 installed as local printer on LPT1 or COM1. Example of PC network name: *JohnDoe*.
Parallel or serial cable
SC7000
Network Hub
Network of Windows 95 (or WFW) remote PC clients sharing SC7000 via Windows 95 (or WFW.) SC7000 installed on each client as network printer on network printer port: *JohnDoe**SC7000*.

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Direct Network Connection

The SC7000 and SC7000 Upgrade are the only RISO Publishers capable of direct connection to PC Ethernet networks. Both have RJ-45, BNC, and AUI ports supporting 10 Mbps Ethernet. Both support AppleTalk and TCP/IP protocols. Some popular network operating systems (Novell NetWare, Windows NT Server) support the AppleTalk and TCP/IP protocols. To direct connect, set up an AppleTalk or TCP/IP print queue on the network server for the SC7000 or the SC7000 Upgrade, and connect the network cable to the matching port on the SC7000 or SC7000 Upgrade. Use the RISO Utility to set up the SC7000 or SC7000 Upgrade for TCP/IP before connecting it to the network. If printing to the SC7000 Upgrade via TCP/IP on a Windows NT4 network, please follow the attached directions beginning on page 6 before you attach to the network. The directions in the Technical Administrator Manual are incorrect.

External Print Server Adapter Connection

This strategy uses an external device which can communicate with both the network and the RISO Publisher. These small devices function as dedicated print servers but are much lower in cost than a dedicated PC. Besides having a compatible network port, the print server adapter must have a printer port compatible with the RISO Publisher. The latter requirements are summarized in the table below.

Printer Port Requirements for Print Server Adapters

RISO Publisher Model	Publisher Printing Ports	Use RISO Cable	Adapter Printing Ports	Other Adapter Requirements
SC7000 & SC7000 Upgrade	Parallel DB-25F Centronics (not bi-directional) Serial RS232-C DB-9M	101-55014-003 CI-010	Parallel DB-25F Serial RS232-C DB-9M	Must not require a bi-directional parallel printer port.
SC3000	Parallel DB-36F Centronics (not bi-directional)	CI-003 Non-RISO cable	Parallel DB-25F Match cable	Must not require a bi-directional parallel printer port.
CI300	Parallel DB-36F Centronics (not bi-directional)	CI-003 Non-RISO cable	Parallel DB-25F Match cable	Must not require a bi-directional parallel printer port.

The key requirements are (1) the printer port on the adapter must be physically compatible with the corresponding port on the RISO Publisher and cable (connector type and gender) and (2) if a parallel port connection will be used, the adapter must work with the uni-directional (Centronics) parallel ports on the RISO Publishers. This information is rarely published in print server adapter specifications; the buyer should contact the supplier of any print server adapter of interest before purchasing it to confirm that the printer port of interest is compatible with the RISO Publisher of interest. RISO does not control print server adapter specifications and cannot therefore be responsible for providing that information to you. The network administrator should select a device which is compatible with the network on which the RISO Publisher will be installed. Print server adapters are available from many suppliers.

RISO recommends that your customer work with his computer systems and/or network systems suppliers to select a print server adapter which will work with his network and with his RISO Publisher. The following table is a partial list of print server adapter suppliers and products and is presented here as a convenience to those adopting this network connection strategy. The table was compiled from information placed on the internet by the suppliers. RISO cannot be responsible for errors or any consequences of errors in the table. RISO has not tested any of the devices listed. RISO does not guarantee the suitability of any device listed for your intended use. RISO does not provide technical support for any devices of this type. Specifications for this type of product normally are subject to change without notice and have done so in recent times. Brands and models which worked for you in the past may not work today. Before committing to purchase any print server adapter, the buyer should contact the supplier's technical support to verify that the product is compatible with the communication requirements of both the network and the RISO Publisher. If installation assistance is needed after purchase, the buyer should contact the print server adapter supplier's technical support.

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Print Server Adapters

Supplier	Product Code	Network OS/Protocols Supported	Network Topologies Supported	Printer Ports	Price
Axis Communications Corp. www.axisinc.com 800-444-2947	AXIS 560	IPX, NetBIOS/NetBEUI, TCP/IP, FTP, Telnet, RARP, SAP	10BaseT	2 Parallel 1 Serial	$449
Castelle, Inc. www.castelle.com 800-289-7555	LANpress 3P/100	IPX/SPX, TCP/IP, AppleTalk	10BaseT 100BaseT	3 Parallel	$499
Chase Research, Inc. www.chaser.com 615-872-0770 ext. 5 support@chaser.com	10PRINT+Jr	NetWare, Win NT, UNIX, Apple	10Base2 10BaseT	1 Parallel	n/a
Digi International www.digii.com 800-344-4273	FastPort 3400X	IPX, TCP/IP, NetBIOS, AppleTalk	10BaseT	1 Parallel	$395
Edimax Computer Co. www.edimax.com	PS-1000A	NetWare	10BaseT 10Base2	1 Parallel	n/a
	PS-300A	NetWare, Win NT, Apple	10BaseT 10Base2	2 Parallel 1 Serial	n/a
Extended Systems www.extendedsystems.com 800-235-7576	ESI-2841	NetWare, Win NT, Apple	10BaseT	1 Parallel	n/a
	ESI-2941	NetWare, Win NT, Apple, LAN Manager	10BaseT 100BaseT	1 Parallel 1 Serial	n/a
Intel Corp. www.intel.com 800-538-3373 ext. 483	Netport Express PRO/100	IPX/SPX, TCP/IP, RARP, AppleTalk, NetBEUI	10BaseT 100BaseT	2 Parallel 1 Serial	$499
Lantronix www.lantronix.com 714-453-3995	EPS1-01	IPX, TCP/IP, LAT, AppleTalk, NetBIOS/NetBEUI	10BaseT AUI	1 Parallel 1 Serial	$399
Linksys Products www.linksys.com 714-261-1288	PPS1	NetWare, Win NT	10BaseT 10Base2	1 parallel	n/a
	EPS3	NetWare	10BaseT 10Base2	2 Parallel 1 Serial	n/a
Microplex Systems www.microplex.com 800-665-7798	M205	NetWare, Windows NT, UNIX	10BaseT	1 Parallel	$375
DPI Division of Osicom Technologies, Inc. www.digprod.com 800-984-9004 TechSup@digprod.com	NETPrint 10E/N	NetWare bindery emulation	10BaseT	1 Parallel	$265
	NETPrint 500E/N	NetWare, Win NT, UNIX, Apple	10BaseT	1 Parallel	$299
	NETPrint 500E/B	Vines, Win NT, UNIX, Apple	10BaseT	1 Parallel	$529
	NETPrint 500T/N	NetWare, Win NT, UNIX	Token Ring	1 Parallel	$469
	NETPrint 500T/B	Vines, Win NT, UNIX	Token Ring	1 Parallel	$599
	NETPrint 510E/N	NetWare, Win NT, UNIX, Apple	10Base2	1 Parallel	$299
	NETPrint 510E/B	Vines, Win NT, UNIX, Apple	10Base2	1 Parallel	$529
Patton Electronics Co. www.patton.com 301-975-1000	PeNetTM 2125	NetWare	10BaseT	1 Parallel	n/a
TRENDware International, Inc. www.trendware.com	TE-350	NetWare	10BaseT 10Base2	1 Parallel	n/a
	TE-360	NetWare, Win NT, UNIX	10BaseT 10Base2	1 Parallel	n/a
XCD Incorporated www.xcd.com 714-573-7055 ext 250 support@xcd.com	Pony Print Server	NetWare, Win NT, UNIX, Apple	10BaseT	1 Parallel	n/a
	XConnect II Lite	NetWare, Win NT, UNIX	10BaseT 10Base2	1 Parallel	n/a

TCP/IP Setup for SC7000 Upgrade on Windows NT4 Network

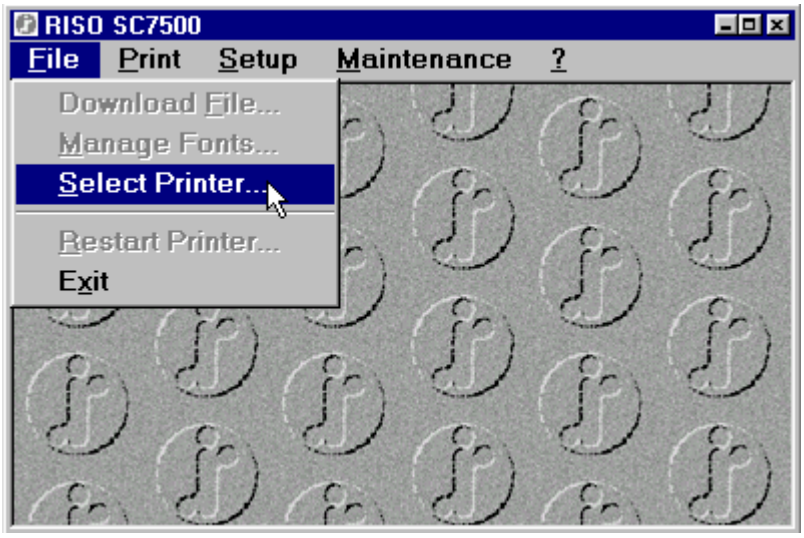
The SC7000 Upgrade supports the Windows NT 4.0 **lpr** protocol for printing via **TCP/IP**. Creation of a print queue for the SC7000 Upgrade on a Windows NT 4.0 Server requires installation of the SC7000 Upgrade printer first on the server and then on each client PC. The 3-step process is described below.

Step 1: Set Up TCP/IP on the SC7000 Upgrade

The SC7000 Upgrade must be set up with its **IP Address** and **Net mask** before it is connected to the network. The settings used in this example are the SC7000 Upgrade factory defaults. The person responsible for the network will provide the settings to be used for a real network installation.

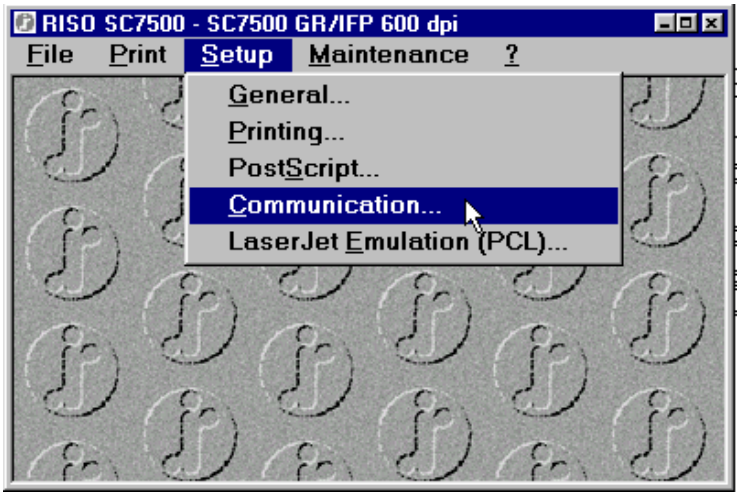
a. Connect the SC7000 Upgrade and PC computer using the parallel cable. Do not connect the SC7000 Upgrade to the network until the **IP Address** and **Net mask** have been set up. Failure to observe this precaution may cause trouble with other devices on the network.

b. Install the SC7000 Upgrade as a printer on the PC. Install and launch the SC7500 Utility. Refer to Chapters 5 and 6 of the SC7500 Technical Administrator Manual for instructions for installing the Utility. Select **Select Printer** from the **File** menu.

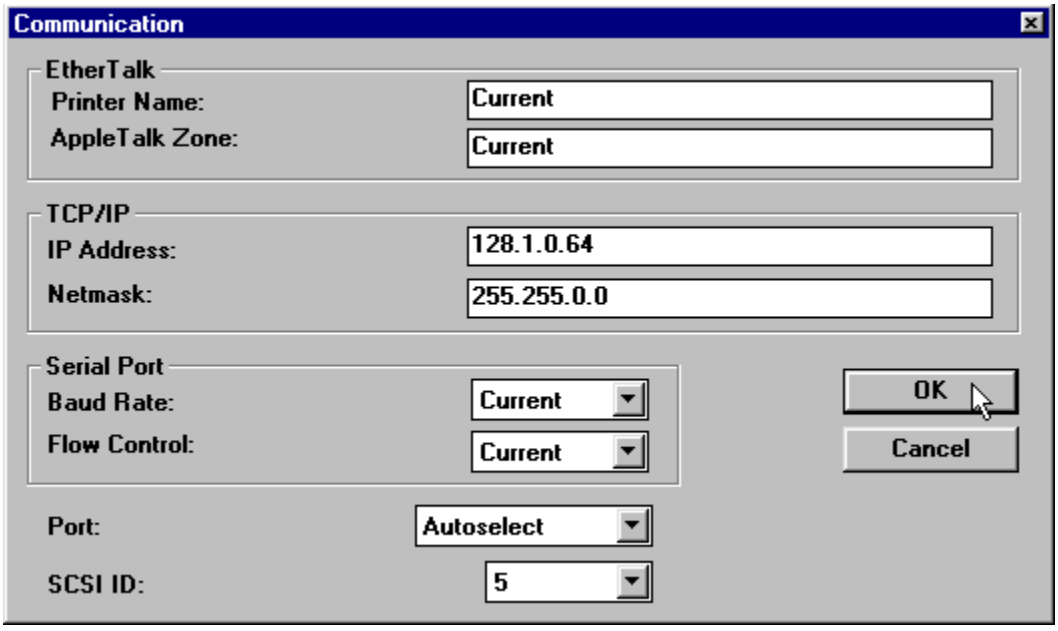


c. Select **RISO SC7500** from the list of installed printers.

d. Select **Communication** from the **Setup** menu.



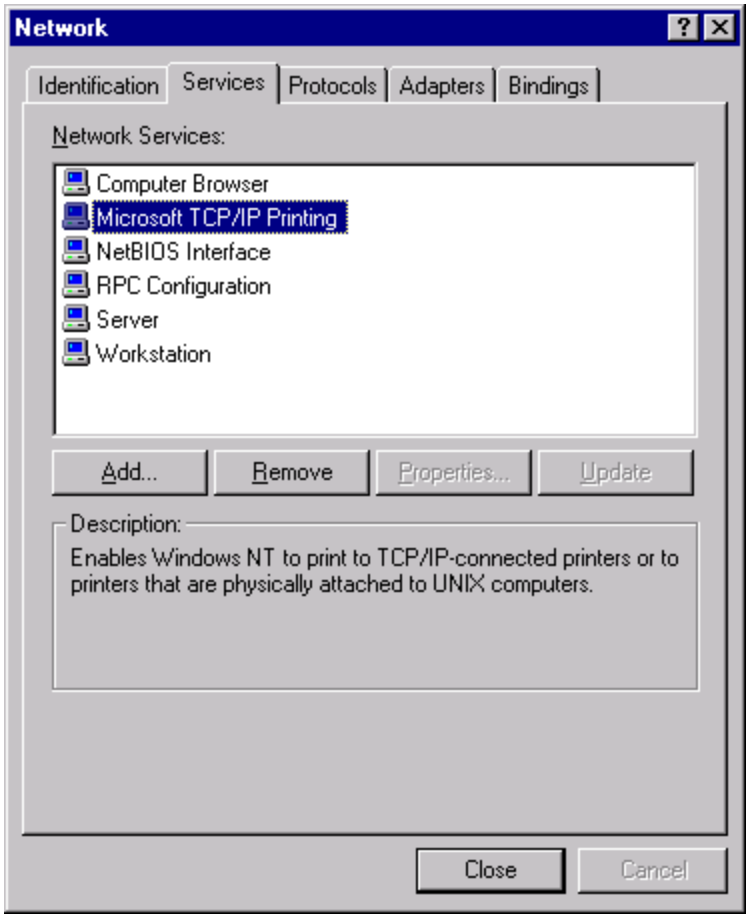
e. Type in the **IP Address** and **Net mask** values obtained from the network administrator.



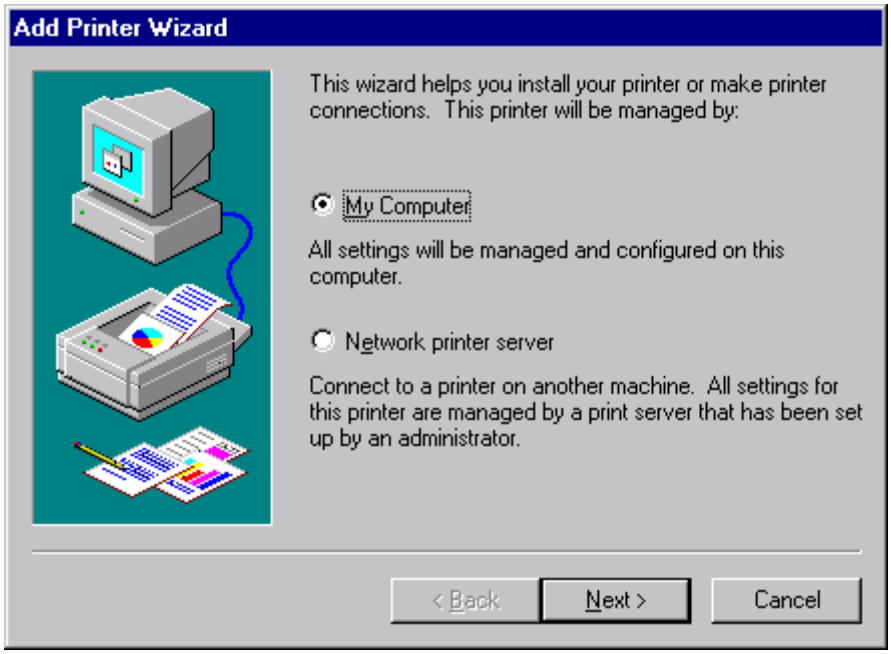
f. Select **Settings Page** from the **Print** menu of the Utility to verify that the **IP Address** and **Net mask** values are correct.
g. Turn the SC7000 Upgrade off, connect it to the network, and turn it on.

Step 2: Setup Windows NT Server

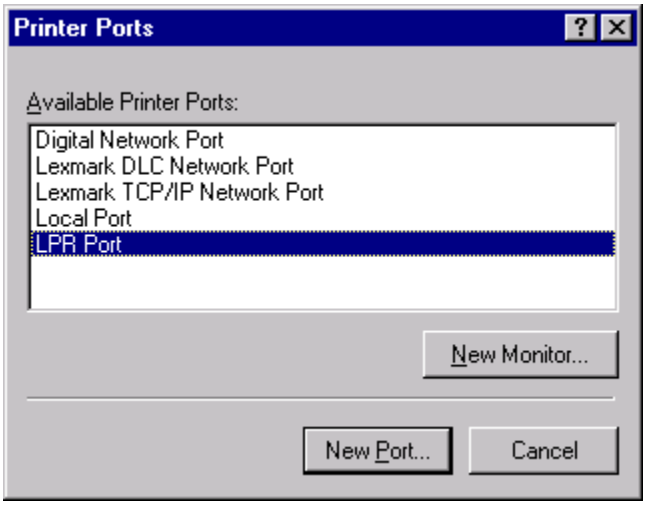
a. Install Microsoft TCP/IP printing.
Open the Windows NT **Control Panel\Network** dialog and click the **Add** button on the **Service** tab. Select **Microsoft TCP/IP Printing** from the list and click the **OK** button. Then click the **Close** button.



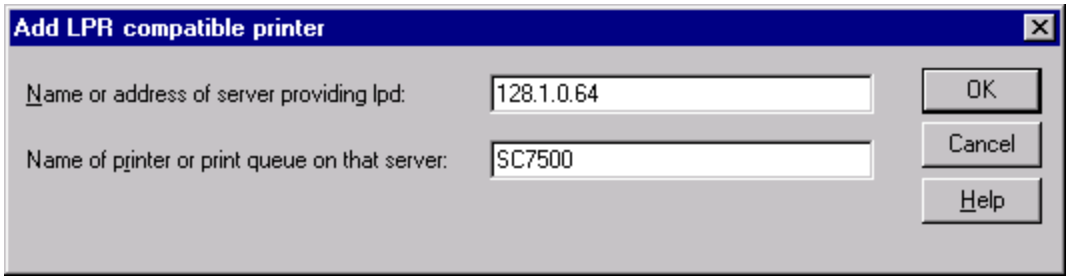
b. Double-click the **Add Printer** icon in the **Printers** dialog window. Select the **My Computer** option and click the **Next** button.


Add Printer Wizard
This wizard helps you install your printer or make printer connections. This printer will be managed by:
My Computer
All settings will be managed and configured on this computer.
Network printer server
Connect to a printer on another machine. All settings for this printer are managed by a print server that has been set up by an administrator.
< Back
Next >
Cancel

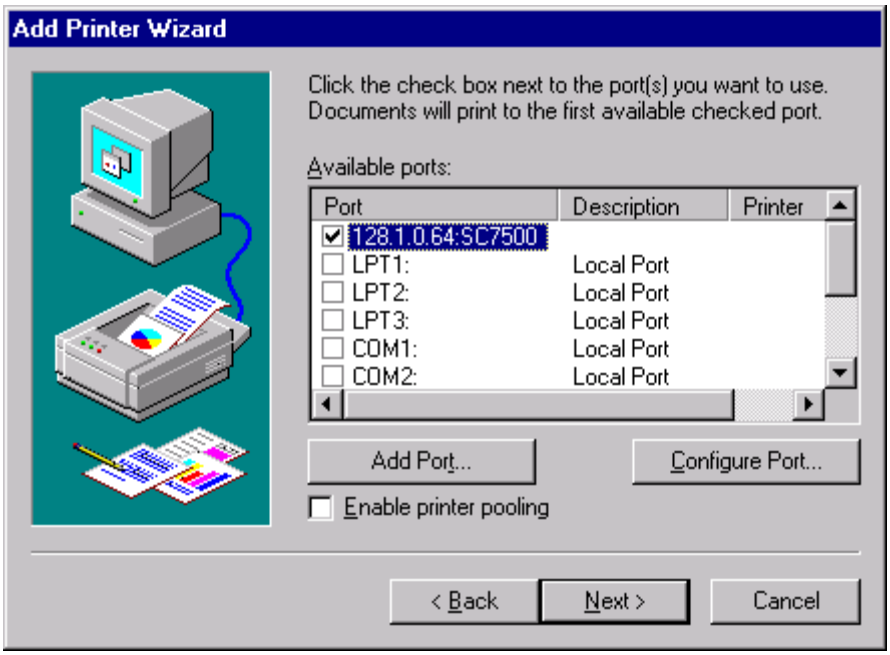
c. Click the **Add Port** button. Select the **LPR Port** option and click the **New Port...** button.



d. Type the same **IP Address** you used in step 1 and the type the **printer name** which will identify the SC7000 Upgrade print queue to client PCs on the network. Click the **OK** button.

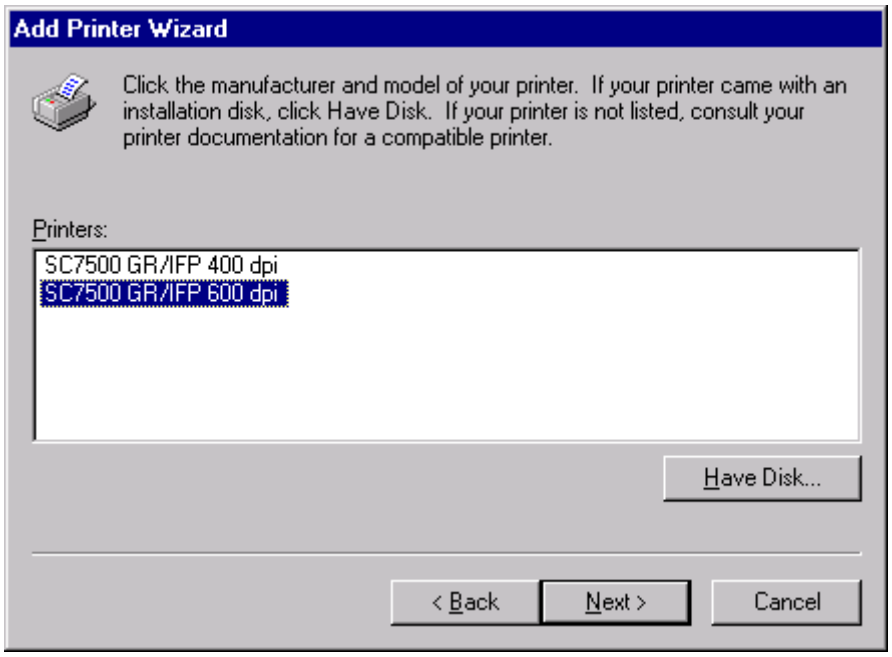


e. Select the port you just created and click the **Next** button.



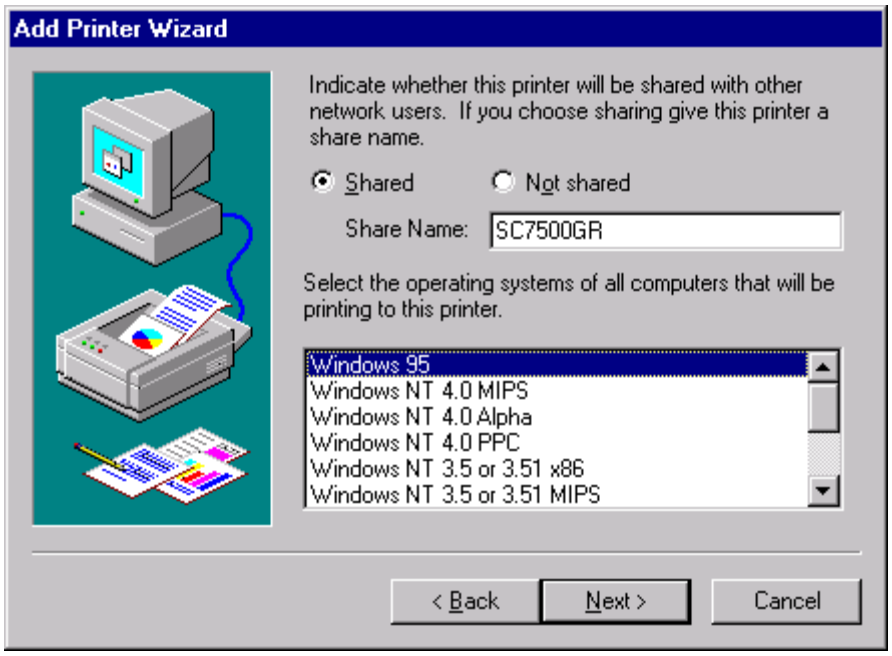
f. Insert the CD-ROM received with the SC7000 Upgrade into the CD drive and click the **Have Disk...** button. Type **D:\us_eng\winnt4\ppd**.

g. From the list displayed, select the printer matching the resolution of the Risograph used for printing and click the **Next** button.


Add Printer Wizard
Click the manufacturer and model of your printer. If your printer came with an installation disk, click Have Disk. If your printer is not listed, consult your printer documentation for a compatible printer.
Printers:
SC7500 GR/IFP 400 dpi
SC7500 GR/IFP 600 dpi
Have Disk...
< Back
Next >
Cancel

h. Type the name you want assigned to this printer. Select whether or not it will be the default printer and click the **Next** button.

i. Select the **Shared** option and type the **Share Name**. From the list displayed, select the operating system(s) of the client PC computers which will print to the SC7000 Upgrade. Your options are limited to Windows NT x86 and Windows 95. Click the **Next** button.


Add Printer Wizard
Indicate whether this printer will be shared with other network users. If you choose sharing give this printer a share name.
Shared
Not shared
Share Name:
SC7500GR
Select the operating systems of all computers that will be printing to this printer.
Windows 95
Windows NT 4.0 MIPS
Windows NT 4.0 Alpha
Windows NT 4.0 PPC
Windows NT 3.5 or 3.51 x86
Windows NT 3.5 or 3.51 MIPS
< Back
Next >
Cancel

j. Select whether or not to print the test page and click the **Next** button. If the Risograph and SC7000 Upgrade are connected and ready to print, printing the test page is recommended. Click the **Finish** button.

k. At the prompt, insert the Windows NT Server CD-ROM into the drive and designate the directory corresponding to the computer system used for the Windows NT4 server. For systems using an Intel or compatible CPU, designate the **i386** directory.

l. Install the client PC drivers.
Windows NT Workstation clients only: When you are asked for the Windows NT disk, insert the CD-ROM received with the SC7000 Upgrade. Type **D:\us_eng\winnt4\ppd** and click the **Next** button.
Windows 95 and Windows 3.1 clients: The printer drivers for these client operating systems can not be installed from the SC7000 Upgrade CD-ROM. If asked for the disk of either operating system, click the **Cancel** button. The drivers will be installed on each client PC in the next step.
Make sure the PostScript error handler is turned off when printing from client PCs via TCP/IP to avoid printing unwanted error messages.

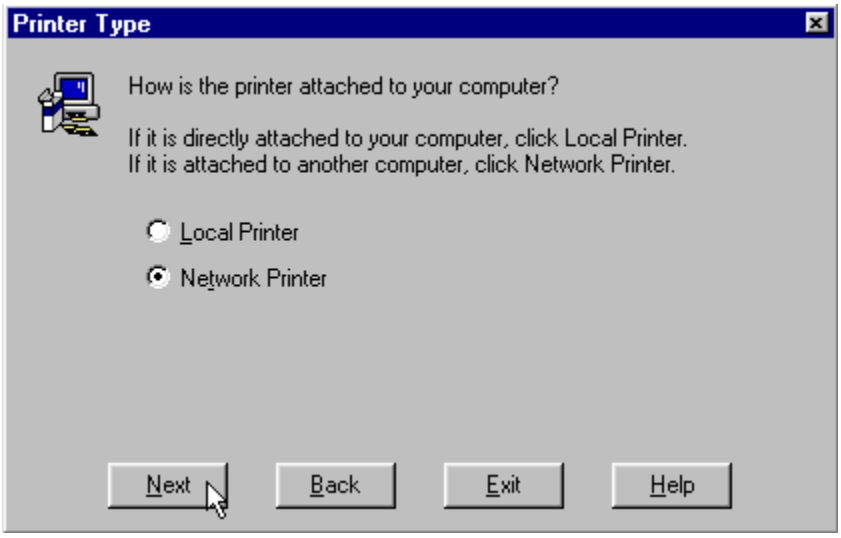
m. If the network administrator needs the twelve-digit Ethernet Address of the Ethernet interface card installed in the SC7000, go to the DOS prompt on the Windows NT4 server. Type **ping 128.1.0.64** but use the actual IP address. Then type **arp -g** and the monitor will display the Ethernet address of the SC7000 Ethernet interface card.

This completes the Windows NT Server installation. If the test page was printed check the print.

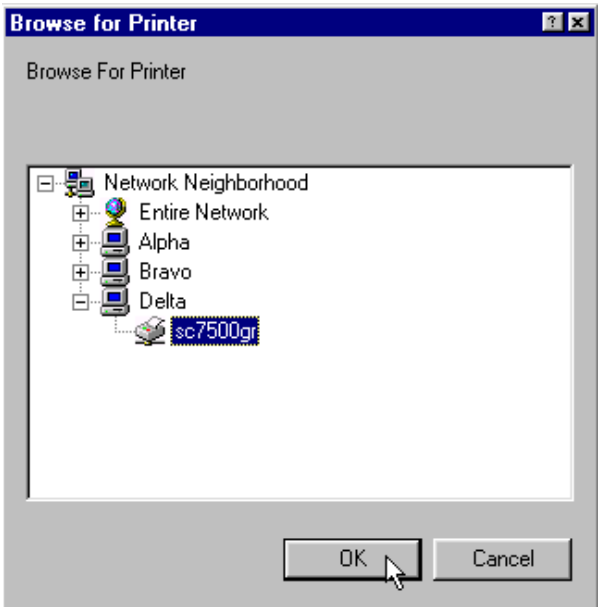
Step 3: Set up the Client PCs.

Windows NT Workstation: Follow the instructions in the SC7500 Technical Administrator Guide, pages 29 and 30.
Windows 3.1 and Windows 95: Install the printer driver on each client PC by following the instructions below.

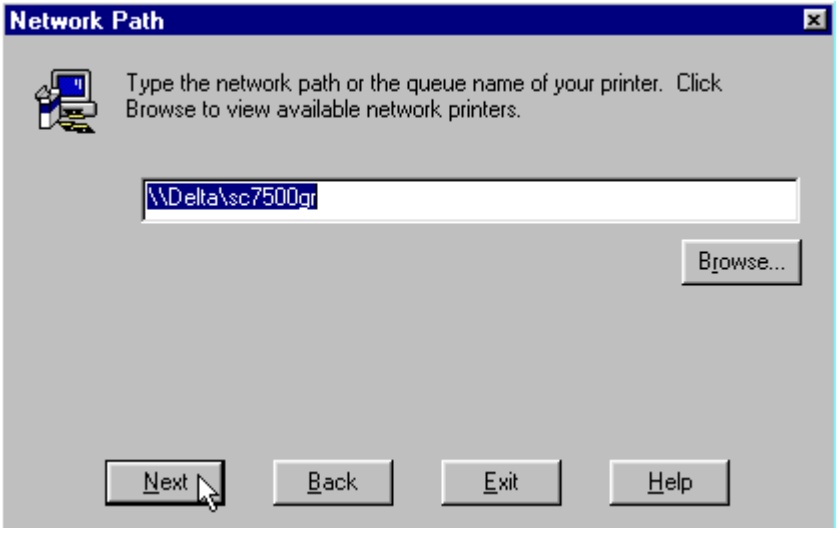
a. Insert the CD-ROM received with the SC7000 Upgrade into the CD drive on the client PC.
b. Select **Run...** in the **Start** menu.
c. Type **D:\us_eng\win95** or **win31\adobeps\setup**.
d. Select the **Network Printer** option and click the **Next** button.



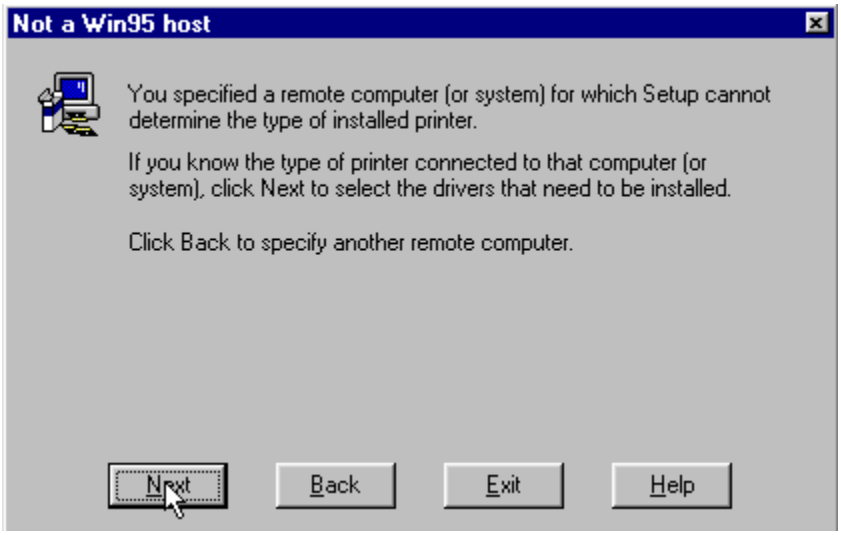
e. Click the **Browse** button, locate the port and printer name selected in step 2d above, and click the OK button.



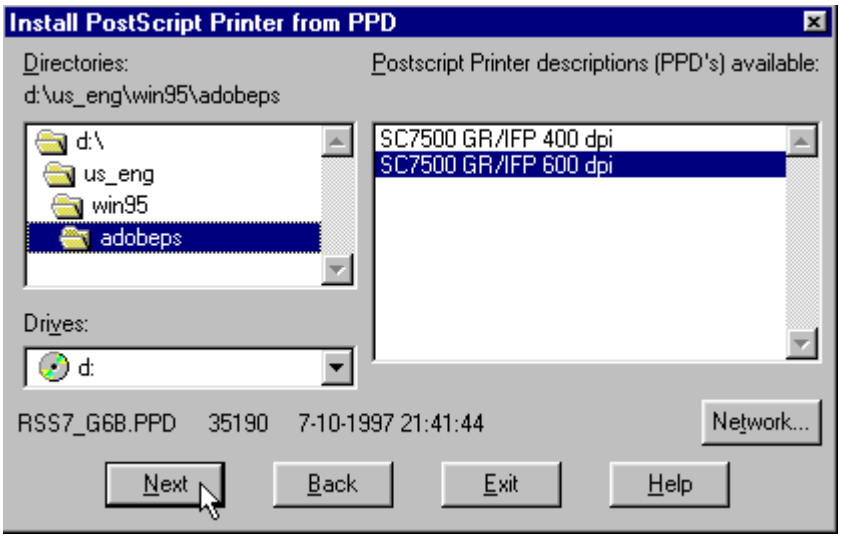
f. Click the **Next** button.



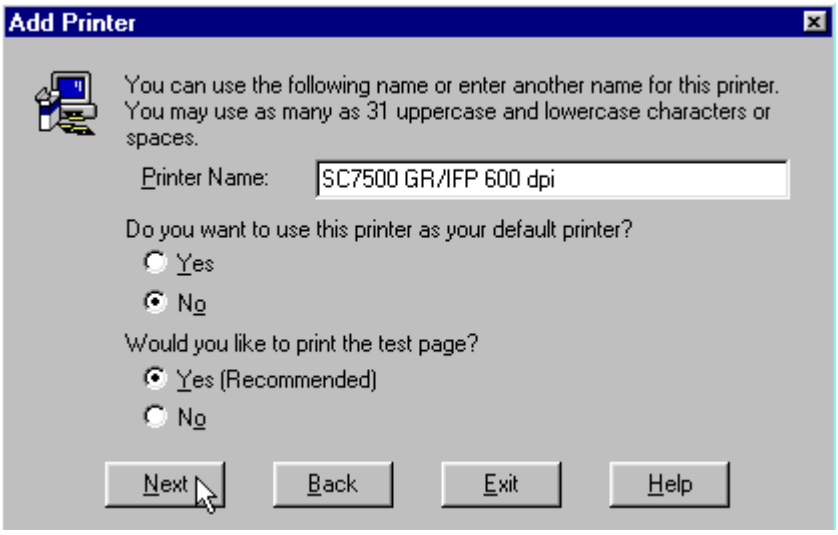
g. Click the **Next** button.


Not a Win95 host
You specified a remote computer (or system) for which Setup cannot determine the type of installed printer.
If you know the type of printer connected to that computer (or system), click Next to select the drivers that need to be installed.
Click Back to specify another remote computer.
Next
Back
Exit
Help

h. Select the PPD corresponding to the resolution of the Risograph and click the **Next** button.



i. Name the printer, select one of the default printer options, select one of the test page options, and click the **Next** button.


Add Printer
You can use the following name or enter another name for this printer. You may use as many as 31 uppercase and lowercase characters or spaces.
Printer Name:
SC7500 GR/IFP 600 dpi
Do you want to use this printer as your default printer?
Yes
No
Would you like to print the test page?
Yes (Recommended)
No
Next
Back
Exit
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j. Set up the properties, click on the OK button, and click on the Exit button to complete the client PC setup. If the test page printing opion was selected, check the Risograph receiving tray for the print. This completes the client PC setup.